Rule WLM022:   Execution velocity goal specified for subsystem transaction service class

Finding: An execution velocity goal has been specified for a subsystem transaction service class.

Impact: This finding has a HIGH impact on the performance of the subsystem transaction service class.

Logic flow: This a basic finding. There are no predecessor rules.

Discussion: If subsystems are installed which support Workload Manager reporting (e.g., CICS/ESA Version 4.1 or IMS/ESA Version 5), installations can define service classes which describe particular transaction types and specify performance goals for the transactions in the service class. All transactions entering the system which fall into the workload category described by the service class are associated with the service class.

These transaction service classes are simply logical groupings of transactions based on the workload classification scheme, and the actual resources are used by (and attributed to) the address spaces processing the transactions.

For example, CICS transactions may be grouped into a transaction service class. CICS/ESA Version 4 reports information about the transactions to the Workload Manager (transaction response time and transaction delays). The CICS region is the address space which executes CICS tasks to process the CICS transactions, and the region address space uses resources.

Please refer to Section 4 for discussion of the relationship between server service classes and transaction service classes.

Of particular importance to this finding is the fact that the subsystem transaction service classes are not address spaces. Since they are not address spaces, the Workload Manager does not acquire CPU Using, CPU Delay, or Processor Storage Delay information for the subsystem transaction service classes. Consequently, the Workload Manager does not compute execution velocities for subsystem transaction service classes.

With OS/390 V2R10, IBM introduced an "exemption from transaction response time management" option. This option is available with APAR

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OW43812 installed. With the APAR applied, organizations can specify whether an address space (CICS region or IMS region) will be managed based on the goals of the transactions that the region is serving, or managed based on the goals specified for the region itself. This option is exercised by using the new "Manage Region Using Goals Of:" field on the WLM ISPF "Modify Rules for the Subsystem Type" panel.

When "TRANSACTION" is entered in the "Manage Region Using Goals OF:" field, the region will be managed as a CICS/IMS transaction server by the WLM. "TRANSACTION" is the default specification. If "REGION" is entered in this field, the region will be managed based on the performance goal specified for the service class to which the region is assigned. This performance goal normally would be an execution velocity goal.

When "REGION" is specified, the WLM does not consider the region to be a "server" of transactions. Rather, the WLM server topology algorithms ignore the region when establishing server topology. Consequently, the goals for any transaction processed by the region will not be considered by the WLM when it determines whether service class periods meet goals and whether policy adjustment is necessary.

This consequence might have undesired implications if you specify goals for CICS or IMS transactions and some or all of those transactions are processed by a CICS or IMS region that has "REGION" specified in the "Manage Region Using Goals Of:" field. In this case, **performance of the transaction service class will not be considered when adjusting resource policy for the region**. This could have the undesired result of transactions not achieving the performance that you desire, simply because the transactions were processed by a CICS or IMS region that was managed based on the goals specified for the region. Alternatively, some transactions might receive better performance than desired because of the same "region-oriented" management by the WLM.

CPExpert produces Rule WLM022 when it detects that an execution velocity goal has been specified for a service class describing subsystem transactions (e.g., CICS or IMS transactions). Since the Workload Manager does not compute execution velocities for subsystem transaction service classes, it is illogical to specify an execution velocity goal for a subsystem transaction service class.

The following example illustrates the output from Rule WLM022:

```
RULE WLM022:  EXECUTION VELOCITY GOAL DEFINED FOR SUBSYSTEM TRANSACTIONS

  The CICSPERS Service Class was specified with an execution velocity goal
  of 50.  This service class applied to subsystem transactions.  The
  Workload Manager does not compute execution velocities for subsystem
  transaction service classes.  You should specify a response goal for
  this service class.
```

Suggestion: CPExpert suggests that you change the execution velocity goal to a response goal.

Alternatively, if you are running OS/390 Version 2 Release 10 (with APAR OW43812 installed) you might have deliberately assigned the "served" transaction service class to the region, and specified that the region be managed based on the goals specified for the region (normally, this would be an execution velocity goal). If this is the situation, you should consider the following alternatives:

• You can simply ignore this finding, but allow CPExpert to continue to check for such situations. The reason that you might wish to allow CPExpert continue to invoke Rule WLM022 is that your workload classification might change, new transactions might be added, CICS or IMS might route transactions to the CICS region or message processing region, etc.   You might not be aware of the implications of the WLM assigning a specific transaction to a region managed by the region's goal.

• You can "turn off" Rule WLM022 as described in Section 2 of this WLM Component User Manual. This action should be taken if you become annoyed by Rule WLM022 being produced when you do not plan to take action.

Reference: MVS Planning: Workload Management

OS/390 (V2R4):	Chapter 8.3: Using Performance Periods
OS/390 (V2R5):	Chapter 8.3: Using Performance Periods
OS/390 (V2R6):	Chapter 8.3: Using Performance Periods
OS/390 (V2R7):	Chapter 8.3: Using Performance Periods
OS/390 (V2R8):	Chapter 8.3: Using Performance Periods
OS/390 (V2R9):	Chapter 8.3: Using Performance Periods
OS/390 (V2R10):	Chapter 8.3: Using Performance Periods
z/OS (V1R1):	Chapter 8.3: Using Performance Periods
z/OS (V1R2):	Chapter 8.3: Using Performance Periods
z/OS (V1R3):	Chapter 8.3: Using Performance Periods
z/OS (V1R4):	Chapter 8.3: Using Performance Periods